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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,009	09/10/2003	Remus Nicolaescu	42P17104	3490

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EXAMINER


NGUYEN, DUNG T

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/659,009	Applicant(s) NICOLAESCU ET AL. 	
	Examiner Dung (Michael) T. Nguyen	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-30 is/are allowed.
- 6) ☒ Claim(s) 1, 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 2-6, 9-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grudin et al. (US2003/0021302) in view of Vossler et al. (US5408492).

With respect to claim 1, Grudin et al. show in Fig. 11 a method, comprising: directing a first optical beam of a first wavelength and a first power level 1480nm into a first ring resonator 14; causing emission of a second optical beam of a second wavelength 1240nm in the first ring resonator by propagating the first optical beam around the first ring resonator, wherein the first power level is sufficient to cause the emission of the second optical beam; and directing the first optical beam 1480nm out of the first ring resonator after a round trip of the first optical beam around the first ring resonator; and recirculating the second optical beam around the first ring resonator to further stimulate the emission of the second optical beam in the first ring resonator.

Grudin et al. lack a semiconductor material. Vossler teaches in Fig. 1 a semiconductor material substrate 100. For the motivation of supporting the ring resonator (col.3, 1.55-56) and providing desirable electro-optic properties in the ring (col.4, 1.5-7), it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Grudin et al. what is taught by Vossler.

With respect to claim 7, Grudinin disclose the Raman scattering (SRS) (para.0156, 1.6).

With respect to claim 8, Grudinin disclose the Stokes frequency (Para.0156, 1.5).

Allowable Subject Matter

Claims 2-6 and 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 11-30 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 11 and 22 are allowed over the Grudinin and Vossler prior art because they fail to teach, taken singly or combined, the limitation of a first ring resonator defined in the semiconductor material with the second output of the first optical coupler optically coupled to the second input of the first optical coupler through the first ring resonator, the first optical coupler to transfer a first optical beam of a first wavelength having a first power level received at the first input of the first optical coupler to the second output of the first optical coupler, the first optical coupler to transfer the first optical beam received at the second input of the first optical coupler to the first output of the first optical coupler, wherein the first power level is sufficient to cause emission of a second optical beam of a second wavelength when the first optical beam is propagated in the first ring resonator, the first optical coupler to transfer most of the second

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optical beam received at the second input of the first optical coupler to the second output of the second optical coupler.

Claims 12-21 and 23-30 are found allowable due to their dependency of claims 11 and 22.

Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung (Michael) T Nguyen whose telephone number is (571) 272-1949. The examiner can normally be reached on 8:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.

Michael Dung Nguyen

Armando P.
Examiner
Art Unit 2828